Claims:

1. A phase failure detector (1) for a multi-phase electricity supply network, which phase failure detector includes a detector circuit (3) for each phase (2), which detector circuit (3) has a first connection point (4) for connecting to the phase (2) being monitored and a second connection point (5), which is connected to a common connection point (9) of the detector circuits, in which each detector circuit (3) includes

- voltage divider elements (6) for dividing voltage between the first (4) and the second (5) connection point and for feeding reduced voltage to an input point (7), and

- a trigger and detector circuit (8) connected between the reduced voltage input point (7) and the second connection point (5),

c h a r a c t e r i z e d in that each trigger and detector circuit (8) is arranged to produce a detection pulse when the reduced voltage reaches a trigger value, whereby the phase failure detector can, in addition to detecting a fault state, also detect which of the phases is defective.

2. A phase failure detector according to Claim 1, c h a r a c t e r i z e d in that the voltage divider elements (6) include at least two capacitive elements (C1, C2), which participate in the division of the voltage and of which at least one (C2) is arranged to store energy and to discharge the energy it stores through the trigger and detector circuit (8).

3. A phase failure detector according to Claim 2, c h a r a c t e r i z e d in that the phase failure detector includes a resistive element between the capacitive elements (C1, C2) and the first connection point (4).

4. A phase failure detector according to any of Claims 1 - 3, c h a r a c t e r i z e d in that the operating energy of the trigger and detector circuit (8) is taken from the voltage divider elements (6).

5. A phase failure detector according to any of Claims 1 - 4, characterized in that the trigger and detector circuit (8) includes a triggering circuit element (V1, V2, V3), which triggers to a conducting state when the control voltage rises to a specific triggering level.

6. A phase failure detector according to any of Claims 1 - 5, characterized in that the trigger and detector circuit (8) includes a rectifier (V4).

7. A phase failure detector according to any of Claims 1 - 6, characterized in that the trigger and detector circuit (8) includes an opto-link (V5).

8. A phase failure detector according to any of Claims 1 - 7, characterized in that it is arranged to be used in a three-phase network, in which case the phase failure detector includes exactly three detector circuits (3).

9. A device utilizing multi-phase network input, characterized in that it includes a phase failure detector (1) according to any of Claims 1 - 8.

10. A device according to Claim 9, characterized in that it is a rectifier and that the common connection point (9) of the detector circuits of the phase failure detector (1) is connected to a reference potential taken from the direct-voltage circuit of the rectifier.